HDG6000B Series Arbitrary signal generator 80-200Mhz

Features:

HDG6000B series integrates multi-function like arbitrary waveform generator, pulse generator, 16-bit word generator, 7-digit cymometer and function generator; It can generate and output stable, accurate and low distortion signals; Built-in over 150 type arbitrary waveforms, which is easy to simulate various signals; Its large screen, user-friendly interface design and keyboard layout are convenient to use; Rich standard configuration interfaces easily achieve remote control of the instrument.

* Output frequency range: 1uHz ~ 200MHz / 160MHz / 110MHz / 80MHz;

* Up to 1.25GSa/s sampling rate, 16bits vertical resolution to ensure the accuracy of the output waveform;

* Up to 64M memory depth, ensuring better waveform detail creation;

* Large and clear display screen (7.0-inch LCD color display, resolution up to 800x640), user interface is clear and intuitive;

* A rich set of modulation functions, support AM, FM, PM, 2ASK, 2FSK, 2PSK and PWM etc. ;

* 1uHz frequency resolution; minimum 2mv output amplitude;

* Built-in 7-digit high-resolution 200MHz cymometer; with optional higher performance cymometer;

* Standard communication interface: HDG6000B series: USB Host, USB Device, optional LAN interface;

* Built-in more than 150 arbitrary waveforms, including exponential rise, exponential drop, ECG signal, Gaussian, semi-positive, Lorentz, dual-tone multi-frequency, DC voltage, etc.

Specification

Model	HDG6202B	HDG6162B	HDG6112B	HDG6082B
Main Feature				
Channel	2	2	2	2
Waveform Length	64M			
Frequency Range	200MHz	160MHz	110MHz	80MHz
Sampling Rate	1.25GSa/s			
Voltage Resolution	16 Bit			
Digit Output Mode	16 channels output			
Waveform				

Standard Waveform	sine, square, triangle, pulse, noise, harmonic			
Arb. Waveform	More than 40 kinds: index rise, exponential decline, ECG signal, Gaussian, semi-positive, Lorentz, dual-tone multi-frequency, DC voltage, etc.			
Frequency Characteristics				
Sine	1uHz~200MHz	1uHz~160MHz	1uHz~110MHz	1uHz~80MHz
Square	1uHz~60MHz	1uHz~50MHz	1uHz~40MHz	1uHz~35MHz
Pulse	1uHz~50MHz	1uHz~40MHz	1uHz~25MHz	1uHz~20MHz
Triangle	1uHz~5MHz	1uHz~4MHz	1uHz~3MHz	1uHz~2MHz
White Noise	120MHz	120MHz	110MHz	80MHz
Harmonic	1uHz~100MHz	1uHz~80MHz	1uHz~55MHz	1uHz~40MHz
Arbitrary	1uHz~50MHz	1uHz~40MHz	1uHz~25MHz	1uHz~15MHz
Resolution	1uHz			
Accuracy	±2ppm, 18~28℃			
Sine Spectrum Purity				
Harmonic Distortion	Typical (0dBm)			
	DC-1MHz: <-60dBc			
	1MHz-10MHz: <-55dBc			
	10MHz-100MHz: <-50dBc			
	100MHz-160MHz: <-40dBc			
THD (Total Harmonic Distortion)	<0.1% (10Hz-20kHz, 0dBm)			
Spurious Signal (Non-harmonic)	Typical (0dBm)			
	≤10MHz: <-65dBc			
	>10MHz: <-65dBc+6dB/octave			
Phase Noise	Typical (0dBm,10KHz offset)			
	0MHz: ≤-115dBc/Hz			
Square Characteristics				
Rising/Falling Time	Typical (1Vpp)		Typical (1Vpp)	Typical (1Vpp)
	<8ns		<10ns	<12ns
Overshoot	Typical (100KHz, 1Vpp)			
	<3%			
Duty Cycle	≤10MHz: 20.0%~80.0%			
	10MHz~40MHz: 40.0%~60.0%			
	>40MHz: 50.0% (fixed)			
Asymmetry	1% +5ns of Period			
Jitter	Typical (1MHz,1Vpp, 50Ω)			
	≤ 5MHz: 2ppm+500ps			
	> 5MHz: 500ps			
Triangle Characteristics				
Linear	≤1% (1KHz, 1Vpp) of Peak Output			
Symmetry	0%~100%			
Pulse Characteristics				
Period	25ns~1Ms	25ns~1Ms	40ns~1Ms	50ns~1Ms
Pulse	≥10ns	≥10ns	≥12ns	≥15ns
Rising/Falling Time	≥5ns	≥6ns	≥8ns	≥10ns
Overshoot	<3% (1Vpp)			
Jitter	Typical (1MHz, 1Vpp, 50Ω)			
	≤ 5MHz 2ppm+500ps			
	> 5MHz 500ps			
Arbitrary Characteristics				
Waveform Length	64M			
Vertical Resolution	16 Bit			
Sampling Rate	1.25GSa/s			
Rising/Falling Time	Typical (1Vpp): <6ns			
Jitter	Typical (1MHz, 1Vpp, 50Ω)			
	≤ 5MHz 2ppm+500ps			
	> 5MHz 500ps			
Harmonic Output Characteristics				
Harmonic Times	≤16 times			

Harmonic Type	Even harmonics, odd harmonics, sequential harmonics			
Harmonic Amplitude	Each harmonic amplitude can be set			
Harmonic Phase	Each harmonic phase can be set			
Amplitude Characteristics (50ΩTermination)				
Range	≤20MHz: 1mVpp ~ 10Vpp			
	≤80MHz: 1mVpp ~ 5Vpp			
	≤110MHz:1mVpp ~ 2.5Vpp			
	≤160MHz:1mVpp ~ 1Vpp			
	≤200MHz:1mVpp ~ 0.5Vpp			
Accuracy	1KHz Sine, 0V offset (±|1%±2mVpp| of setting value)			
Amplitude flatness (relative to 1 kHz sine wave, 500 mVpp, 50 Ω)	≤1MHz: ±0.1dB	≤1MHz: ±0.1dB	≤1MHz: ±0.1dB	≤1MHz: ±0.1dB
	≤60MHz: ±0.2dB	≤60MHz: ±0.2dB	≤60MHz: ±0.2dB	≤60MHz: ±0.2dB
	≤100MHz: ±0.4dB	≤100MHz: ±0.4dB	≤100MHz: ±0.4dB	
	≤160MHz: ±0.8dB	≤160MHz: ±0.8dB		
	≤200MHz: ±1.2dB			
Unit	Vpp, mVpp, Vrms			
Resolution	1mV			
Impedance	50Ω			
Offset Characteristics (50Ω termination)				
Range	|Voltset| < Vmax – Vpp/2			
Accuracy	± (1% of setting + 5mV + 0.5% of amplitude)			
	± (|1% + 5mV| of setting value + 0.5% of amplitude)			
Modulation Characteristics				
Modulation Type	AM, FM, PM, 2ASK, 2FSK, 2PSK, BPSK, PWM			
AM				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Modulation Source	Internal, external, other channels			
Modulation Wave	Sine, Square, Triangle, White Noise, Arbitrary			
Modulation Frequency	2mHz~50KHz			
Modulation Depth	0%~120%			
FM				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Modulation Source	Internal, external, other channels			
Modulation Wave	Sine, Square, Triangle, White Noise, Arbitrary			
Modulation Frequency	2mHz~50KHz			
PM				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Modulation Source	Internal, external, other channels			
Modulation Wave	Sine, Square, Triangle, White Noise, Arbitrary			
Modulation Frequency	2mHz~50KHz			
Phase Deviation	0° to 360°			
2ASK				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Modulation Source	Internal, external			
Modulation Wave	50% duty cycle square wave			
Modulation Frequency	2mHz~1MHz			
2FSK				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Modulation Source	Internal, external			
Modulation Wave	50% duty cycle square wave			
Modulation Frequency	2mHz~1MHz			
2PSK				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Modulation Source	Internal, external			
Modulation Wave	50% duty cycle square wave			
Modulation Frequency	2mHz~1MHz			
BPSK				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Modulation Source	Internal			

Modulation Wave	01 yard			
Modulation Frequency	2mHz~1MHz			
PWM				
Carrier Wave	Square			
Modulation Source	Internal, external, other channels			
Modulation Wave	Sine, square, sawtooth, noise, arbitrary			
Modulation Frequency	2mHz~50KHz			
Width Deviation	0% to 100% of Pulse Width			
	0% to 100% of the pulse width			
External Modulation Input				
Max. Input Range	75mVRMS to ±2.5Vac+dc			
Input Bandwidth	10MHz			
Input Impedance	1KΩ			
Sweep Characteristics				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Type	Linear			
Direction	Top			
Sweep	1ms to 50Ks			
Hold/return Time	1ms to 50Ks			
Trigger Source	Internal, external, manual			
Mark	Falling edge of the sync signal (programmable)			
Burst Characteristics				
Carrier Wave	Sine, Square, Triangle, Pulse, Harmonic, Arbitrary (except DC)			
Carrier Frequency	2mHz to 100MHz	2mHz to 100MHz	2mHz to 80MHz	
Pulse Count	1 to 2000 000 000			
Start/Stop Phase	0° to 360°			
Internal Cycle	2μs to 500s			
Gating Source	External Trigger			
Trigger Source	Internal, external, manual			
Cymometer				
Measurement Function	Frequency, period, positive/negative pulse width, duty cycle			
Frequency Resolution	7 bits/s			
Frequency Range	1uHz~200MHz			
Input Level	TTL level			
Gate Time	10ms~16s			
Voltage Range and Sensitivity (Non-modulated Signal)				
DC Coupling	DC Offset Range	±1.5VDC		
	1μHz to 100MHz	50mVRMS to ±2.5Vac+dc		
	100MHz to 200MHz	100mVRMS to ±2.5Vac+dc		
Pulse Width and Duty Cycle Measurement				
Frequency and Amplitude Range	1μHz to 25MHz	50mVRMS to ±2.5Vac+dc		
Pulse Width	Min. Pulse Width	≥100ns		
	Pulse Width Resolution	8ns		
Duty Cycle	Measuring range (display)	0% to 100%		
Input Characteristic				
Input Signal Range	Destruction Voltage	±5Vac+dc	Input Impedance =500Ω	
Input Trigger	Trigger Level Range	-2.5V to +2.5V		
	Trigger Sensitivity Range	0% (140mV hysteresis voltage) to 100% (2mV hysteresis voltage)		
	Trigger characteristics			
Trigger Input				
Level	TTL-compatible			
Slope	Rise or fall (optional)			
Pulse Width	>50ns			
Reference Clock				
External Reference Input				
Lock Range	10MHz±50Hz			

Level	2.5Vpp to 5Vpp
Lock Time	<2s
Input Impedance	5kΩ, AC Coupling
Internal Reference Input	
Frequency	10MHz ± 50Hz
Level	3.3Vpp
Output Impedance	5kΩ, AC Coupling
Synchronous Output	
Level	TTL-compatible
Impedance	50Ω, nominal value
General Characteristics	
Interface	HDG6000B: USB Host, USB Device, Optional RS232 port
	HDG6000C: USB Host, USB Device, LAN port, Wi-Fi, Touch Screen, Optional RS232 port
Display	7 inch, 64K color, TFT LCD Screen, 800*640
Voltage	100-240V, 45Hz - 440Hz
Power	<50W
Fuse	
Environment	
Temperature Range	Operation: 10 ° C to 40 ° C Non-operation: -20 ° C to 60 ° C
Cooling Method	Fan forced cooling
Humidity Range	Less than 35 ° C: ≤ 90% relative humidity 35 ° C to 40 ° C: ≤ 60% relative humidity
Altitude	Operation: 3000 meters or less; Non-operation: 15000 meters or less
Mechanical Specifications	
Dimension	318 x 110 x 150mm (L x W x H)
Weight	3KG